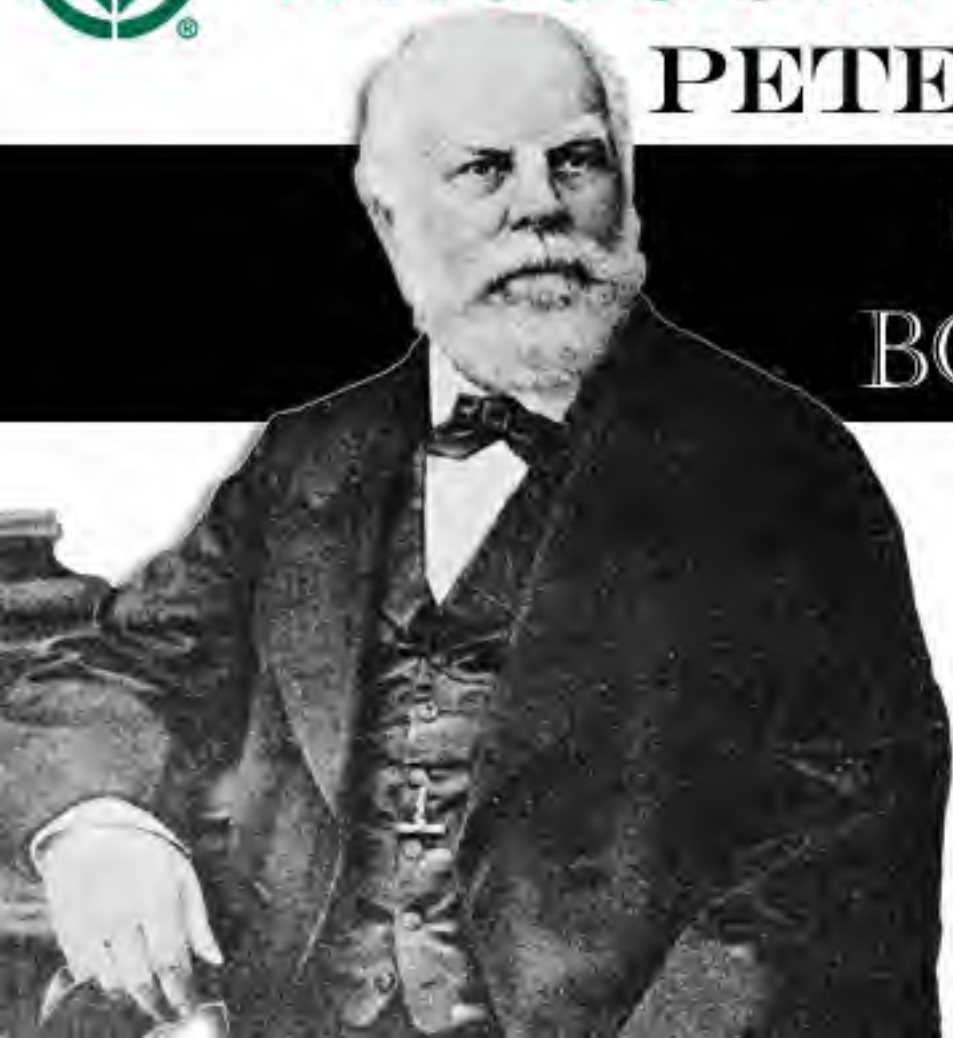


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GEORGE ENGELMANN
BOTANICAL NOTEBOOKS

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Ephedra

June 19 1882

Tucson, Arizona



x 4



single thick fruit,
inner scales scarcely
united at base
seed thick, oval

3-4 pair of
scales, and
a lower
minute pair
closely sessile

slightly compressed,
membranaceous
on margin



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DRUGGISTS

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Ephedra

June 20 1882

Arizona Dr Palmer 248

Stamens oblong

2-3 lowest pairs
sterile

therefore not Nevadaensis, which
has all stamens fertile



sheath short exsert

anthers 5 or 6 subsessile

- 7
upper ones staminate



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Deutsche Apotheke.

HENRY DIERS,
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Cylindropuntia

Dec 10 1882

x4

Phoenix, Arizona, Lemmon No 252



5 pair of scales

basal lower buds



innermost pair of scales
 united at base, one
 strongly overlapping the other



not not
 angled
 broadish
 at base



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11.

80181

Ephedra

Dec 10 1882

♂ Rusby, Arizona N 398

x4



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perigon scarcely exserted
style rather short, long 5 or 6 subside

anthers



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Ephedra

July 14 1882

Vallerito, Cal.

Parish Jan

1882

seed quadrangular
acuminate

x4



a pair of bracts
innermost oval
scarcely connate

fruit fully formed
but not ripe



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Ephedra

June 20 1882

Dr Cooper 1881

California, Fort Mohave

before opening

x4



7 or 8 pair of scales
single ovule



innermost
scales contorted
at base,
membranous
on margin
rough on back



x4



all (6 or 7)
anthers, upper ones
short, stipitate
all bracts fertile
sheath scarcely exsert



outer scales
contorted at base



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Cyperus

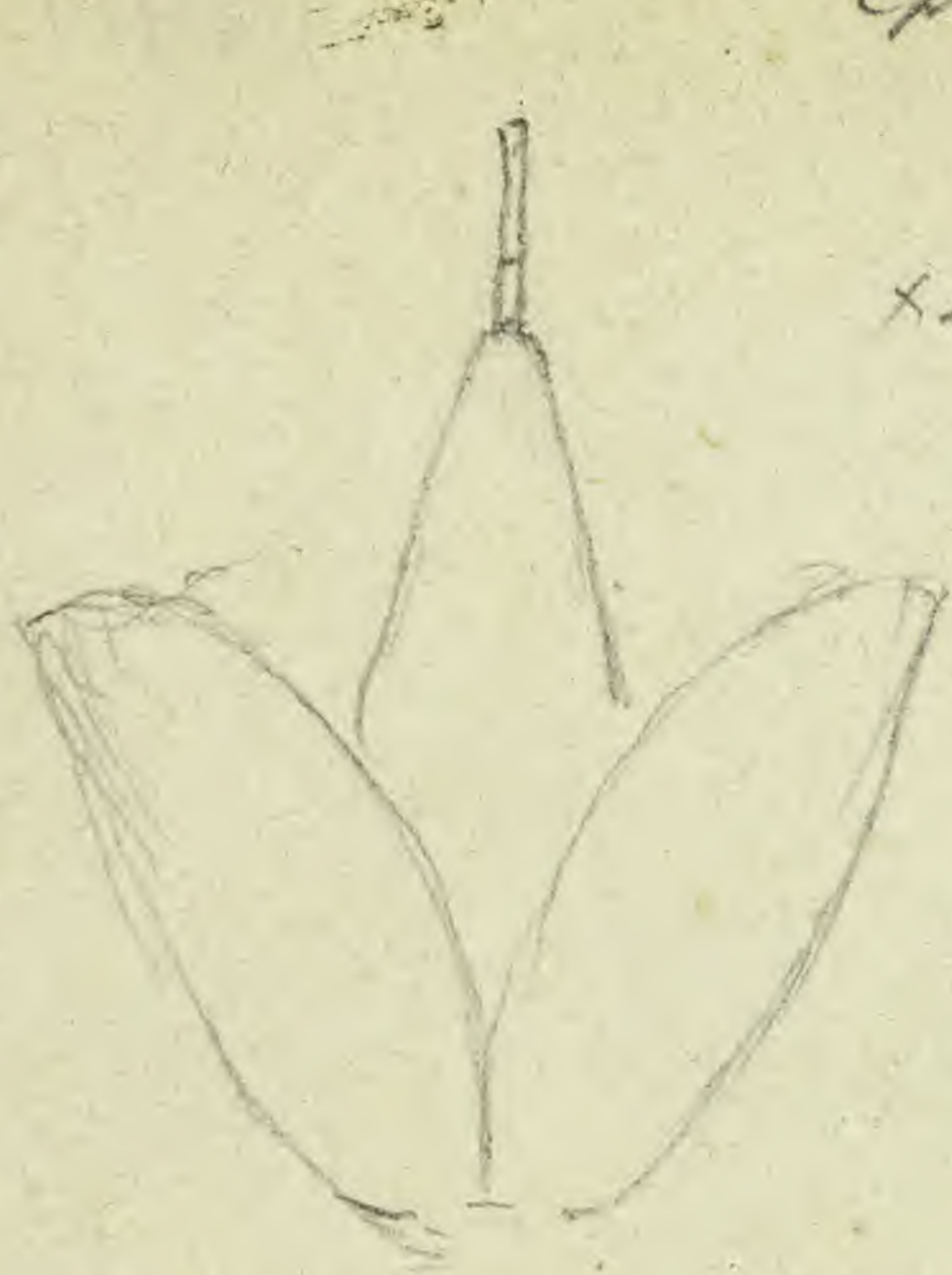
June 16 1892

W. H. George

J. R. R. R.

1871

N. 249



membranous hairy

3 or 4 lowest pairs of stamens; about 5 pairs.

flowering;
 scales orbicular, partly connate
 perigon
 & lig. of fl. scarcely or not
 exserted - stipe erect.
 6-8 sessile anthers.



leaves all in pairs

leaves a very young shoot

6, 7 or 8 pair of
 scales, 3 or 4
 lowest pair quite
 small - inner pair
 longest - scales orbicular
 scarcely connate at base
 but not attenuate at all

nut (ovule) single, fusiform
 acuminate exsert



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ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.



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Ephedra oxymeris?
Fronton, Bigelow

Dec 10 1882

sum. concolor in 3'

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x4



innermost scales
containing the
case

2 lowest pair of scales
empty
perigon large wider
and longer than scales
stipe short 5 nearly
sessile anthers

lowest pair
of hooked fruit-scales
besides this, 6 pairs
seed single exsert

(Terry's set)

x60

stem



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VLEX. FELICH



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Opheodes

June 18 1882

A. Mexico

Wright 1881

No 1883

x4

E. variegata



5-6 pairs of seeds
seed roughish

innermost scale

x4



scarcely contracted
at base, rough

leaves 3

leaves 2



male anther

scales in 2 and 3

The male plant belongs to *E. variabilis*



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Alex. Leitch,
APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

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7

Epheura

Dec 10 1882

x4



only lowest pair sterile
 perigon slightly exceeding scale
 style short, heavy 7-8 sessile
 anthers



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COR. 4TH & OLIVE STS. ST. LOUIS.



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Ephedra

Dec 10 1882

Mojave Desert, Parry 1882



before flowering
innermost scales
yet undeveloped

5 pair of
scales



scales rough
crenulate



innermost
pair united
below only
wholly contracted
at base?



2 stamens

male flowers quite
undeveloped but
I counted 7-8 anthers
only the lowest pair of
scales (besides the bracts)
sterile



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[Faint pencil sketches of botanical specimens, including a large, elongated, ribbed structure and several smaller, more complex shapes.]



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Sphegnanthus *pygmaea*
Mohave desert

June 12 1882

Boyle 1882



x 10



Terminal scales of female ament
with three 2 axillary scales
the left one perfect, the right one only an
open scale with a filiform rudiment at base



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Leitch & Corlies

DRUGGISTS

South-west
Corner Fifth and
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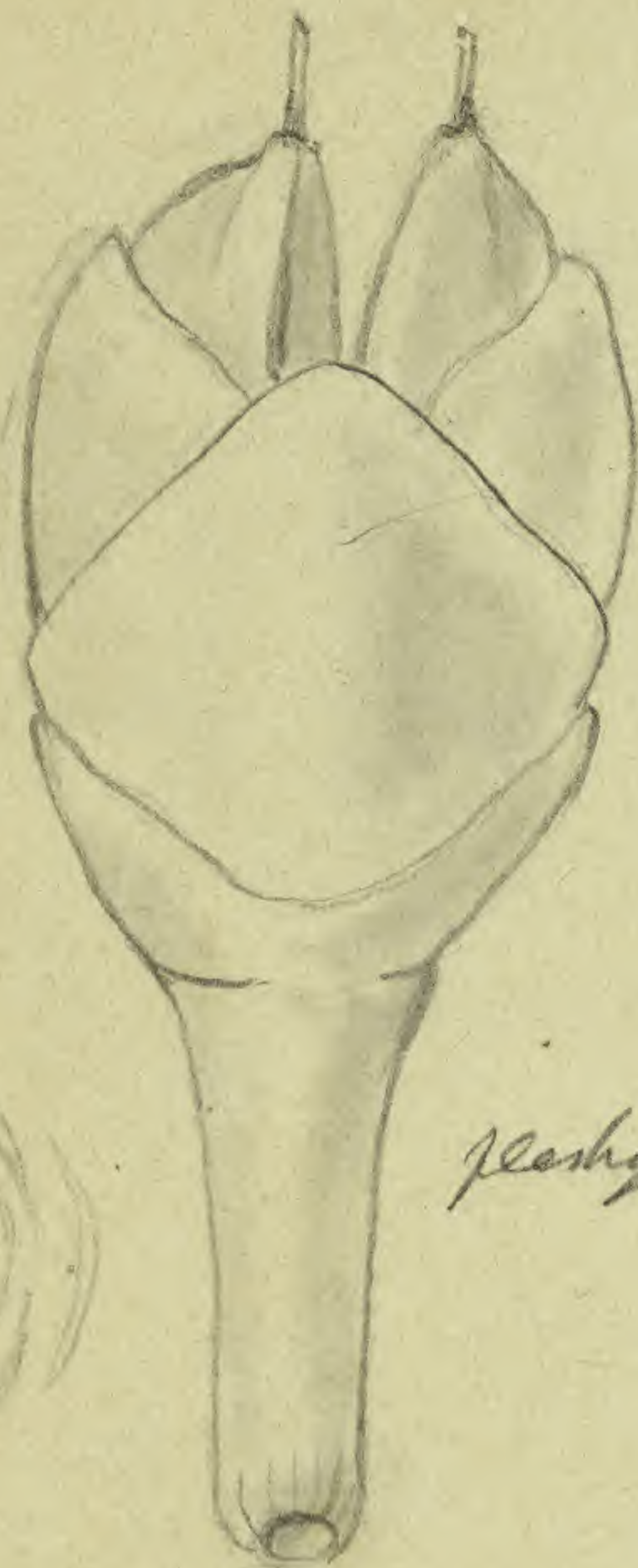
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x6

Ephedra pedunculata n. sp.

Dec-1860

Nevada H. Engelmann
x6



fleshy



seed not quite ripe

horny or
bony



x6



cut

embryo
undeveloped
in the fleshy albumen



fleshy

membranous

8-10 pair of bracts in each axil



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x412



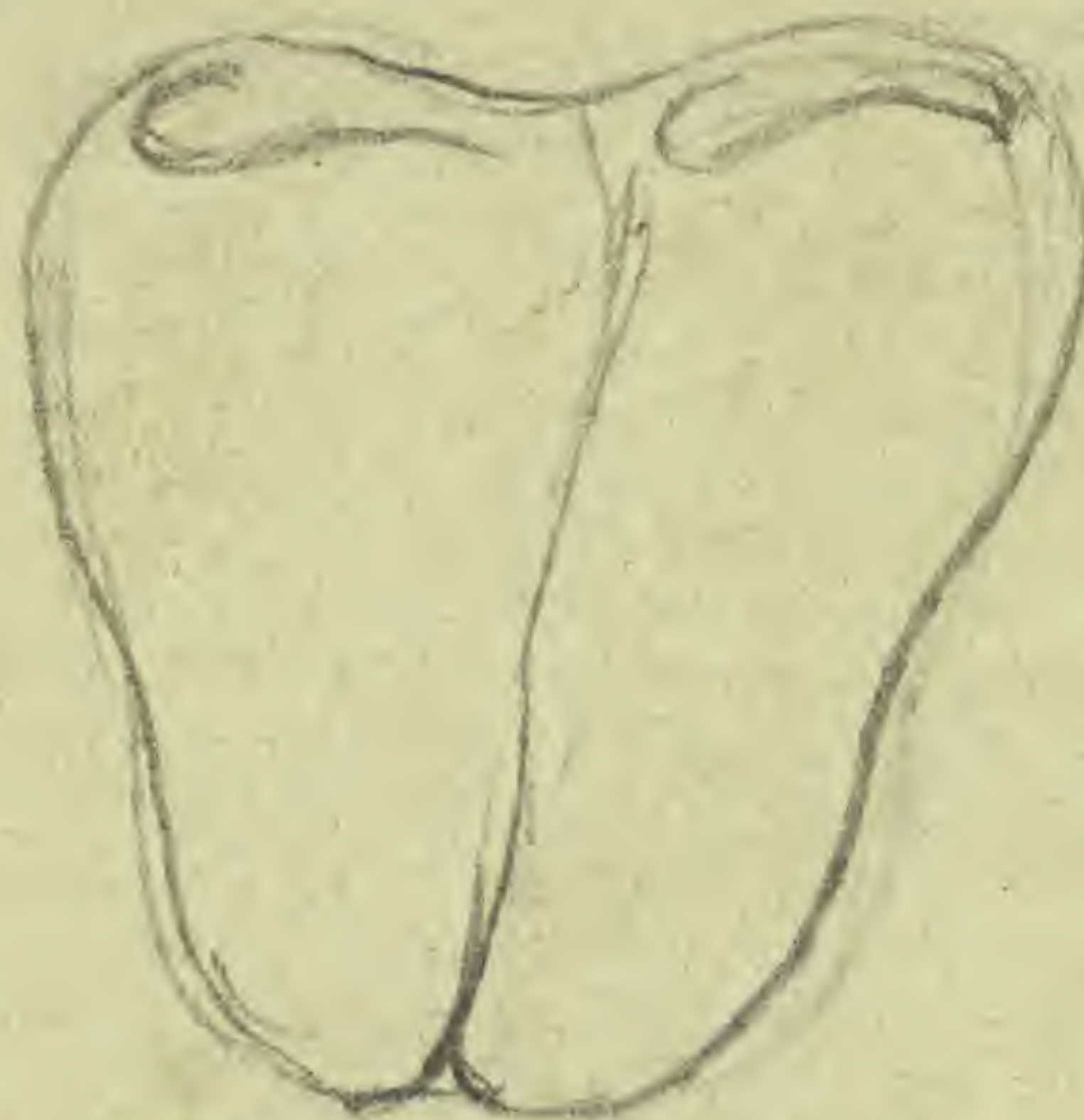
Pollen

Elaeagnus pedunculata n. sp.

Dec 1860

x30

New York H. Engelmann



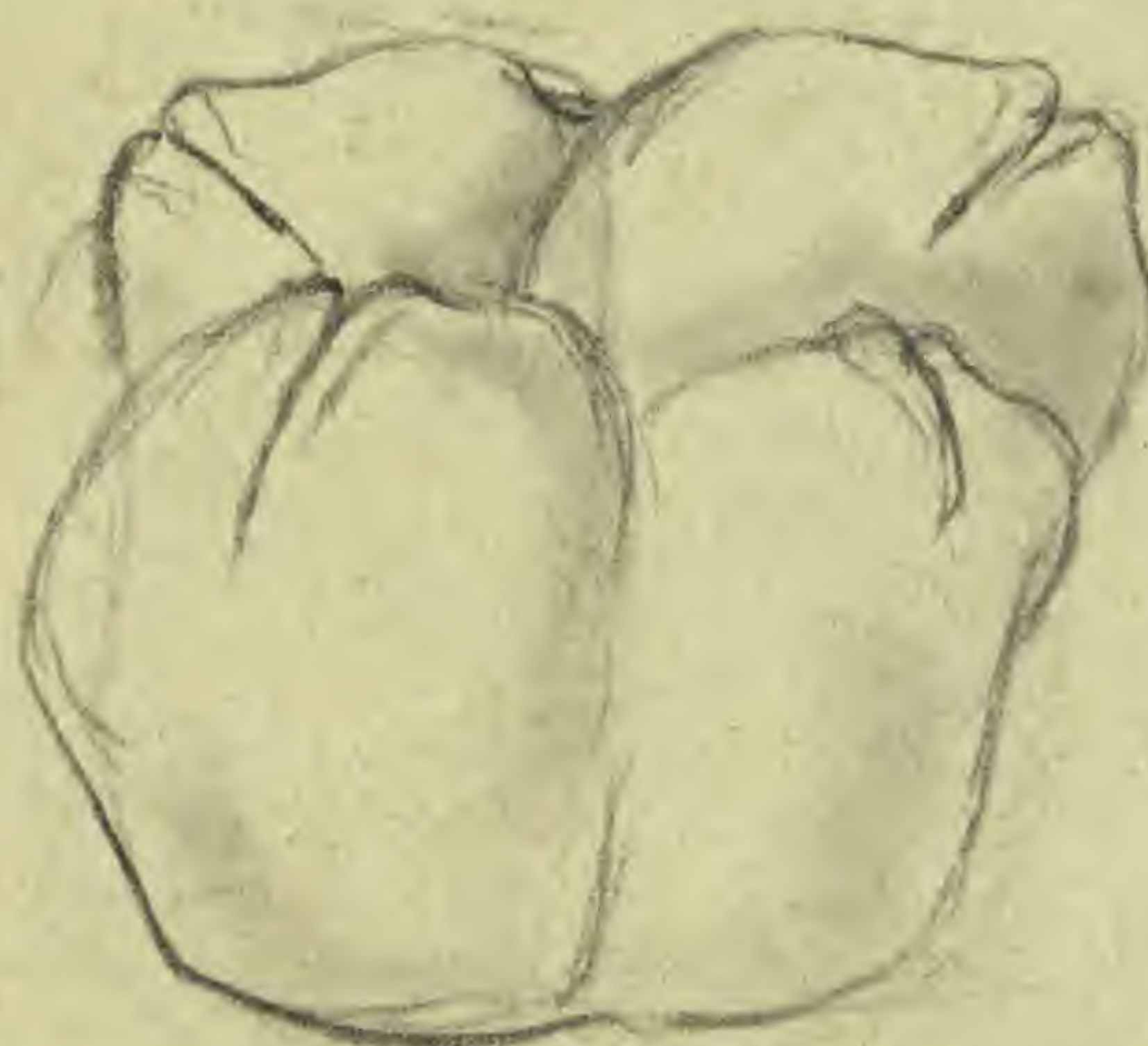
anther
moistened

x30



bundle of filaments
(dry)

x30



4-lobed terminal
anther (moistened)

x10



squame carnosae
marginae membranaceae



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Oxycajus E
belong to variegata?

The above in collections :

ASSORTMENT	E.	100	bulbs in 25 sorts with names, my selection	s. d.
—	F.	50	—	28 "
—	G.	30	—	14 6
				7 8

Single and double in fine mixture :

	Per 100	Per 50	Per 25	s. d.
	8 "	4 6	2 6	

JONQUILS.

Their culture, out of doors as well as for forcing in pots, is the same as of the Hyacinths; see page 2.

Plant four or five in one pot.

N ^o	Each.	Per cent.
250. Single. Small, yellow, sweet-scented.	s. d. 1	s. d. 2 6
251. Double. Large, golden yellow, sweet-scented	" 3	" 16 "
252. Single Campenelle. Large, lemon yellow, very fragrant	" 1	" 4 "
253. Single. Golden yellow; a dwarf species, good for borders	" 1	" 2 6
		4

Panish
diminuta

844-57

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GEORGE ENGELMANN PAPERS

Per 100
Per 50
Per 25 2 6

VARIOUS FRITILLARIA.

N ^o	s. d.	N ^o	s. d.
4315. aurea	8	4327. pudica	4
4316. atropurpurea	4	4328. recurva	4
4318. græca	1	4329. ruthenica	4
4324. pallidiflora	4	4332. tristis	2
4325. persica	5	4333. tulipifolia	4
per dozen	4		

COLCHICUM.

N ^o	Each. s. d.	Per dozen. s. d.
4337. autumnale	1	10
The common <i>Colchicum</i> , rosy lilac.		
4338. — flore albo	3	2
White.		
4340. — — rubro pleno	3	2
Double, red.		



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variabilis

Frederick Parry

Wright 1882

in 1883 - part

Torreyana

Wright to me 1883 - part

El Paso Angelone

St George Utah Parry 250

~~Oxytropis~~

over oxytropis



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over
Oxycarpa
Ag. Clit. Davis 1238
Vallejo
Judson Reno
Phoenix " "
Mojave Cooper

Fronton Wright 1883
Alber Vasey 2-1/2 day kb

St George Perry 249

Camp Grant Palmer
Cliff Aug 398 248
Rusby



0 1 2 3 4 5 6 7 8 9 10

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C. oxycarpa sessile with broad base
5-8 pair scales, ~~lower~~ inner most distinct to
fruit single, pointed, erect smooth base
♂ lower 2-4 pair of scales sterile
perigyn as long as scale or scarcely exserted
5-8 subsessile anthers. Leaves subulate?
4-6(-8)

Frontier & El Paso Wright 1883 (♀ - very hb)
Bigelow
Vasey

Agua Caliente Pinal 1238
Gallente
Mayan Cooper

St George Parry 249
Camp Gila. Pelva 248
Cliff Ar. Presby 398
Tucson Loomis
Phoenix "



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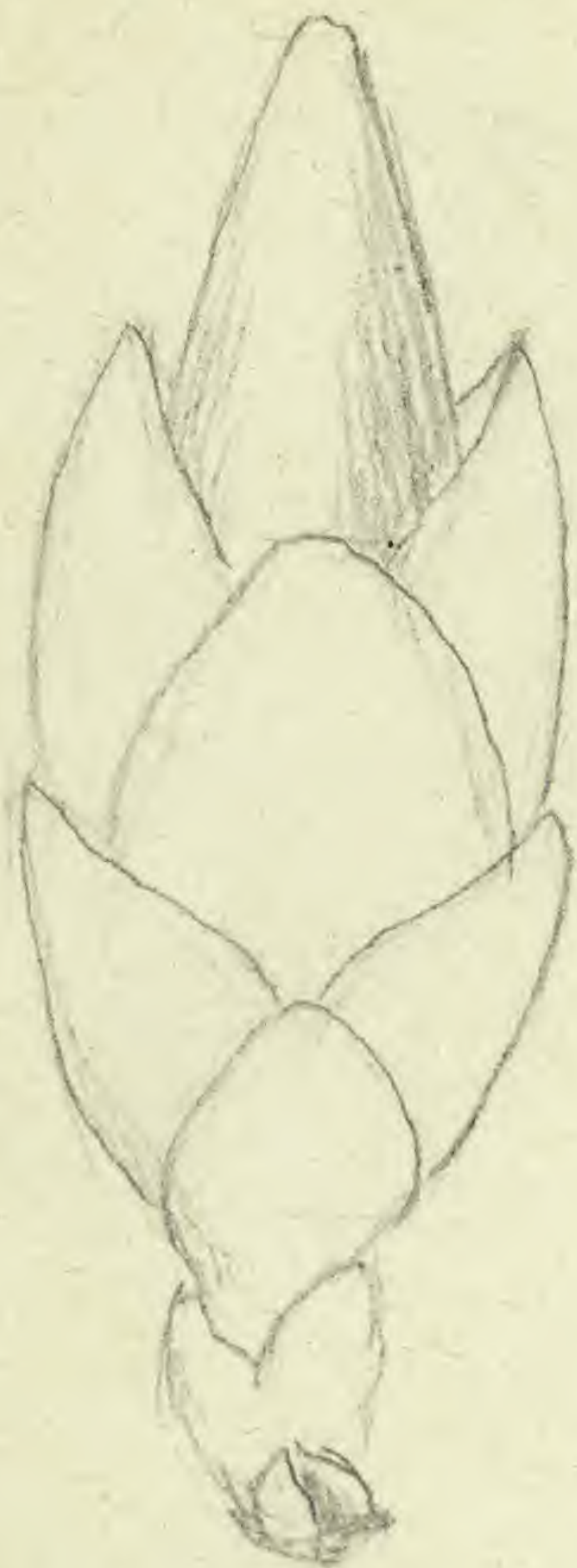
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Ephedra oxycarpa Eng. & Gr. June 19 1882
 Agua Caliente, San Bernardino Co. Parish

No 1238 July 1882



x4



innermost
 scales scarcely
 connate at base

fruit apparently terete

4 pair of scales
 and a couple of
 small ones below
 fruit attenuate below into
 ament a pedicel



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Ephedra oxymeris ?
El Paso J. Vasey

Dec 10 1882

x 4



in flower



innermost
pair contracted
at base

nearly ripe
fruit

stem x 60



lowest pair of scales
sterile
perigon scarcely erect,
4-6, mostly 5 anthers
subscissile



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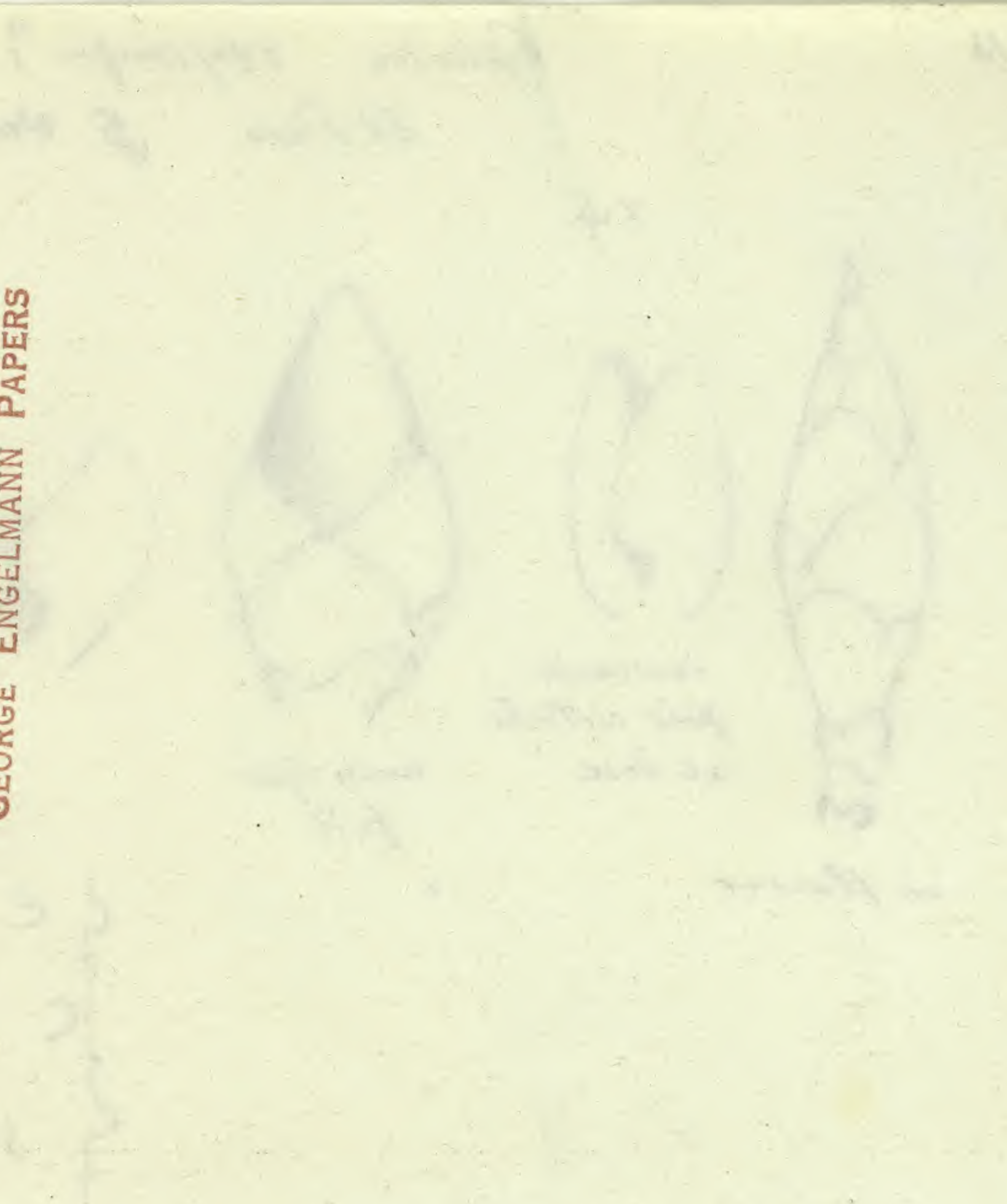


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Ephedra Nevadaensis
 Nevada, Henry Engelmann

June 21 1882

x4



Stamens cylindric rather loose

all scales fertile

perigonial sheath protruding

6-8 anthers, upper ones short stipitate



lower



upper leaves



needle
 Lemmon

leaves of same
 short



upper lowest

St George Mt, Jones



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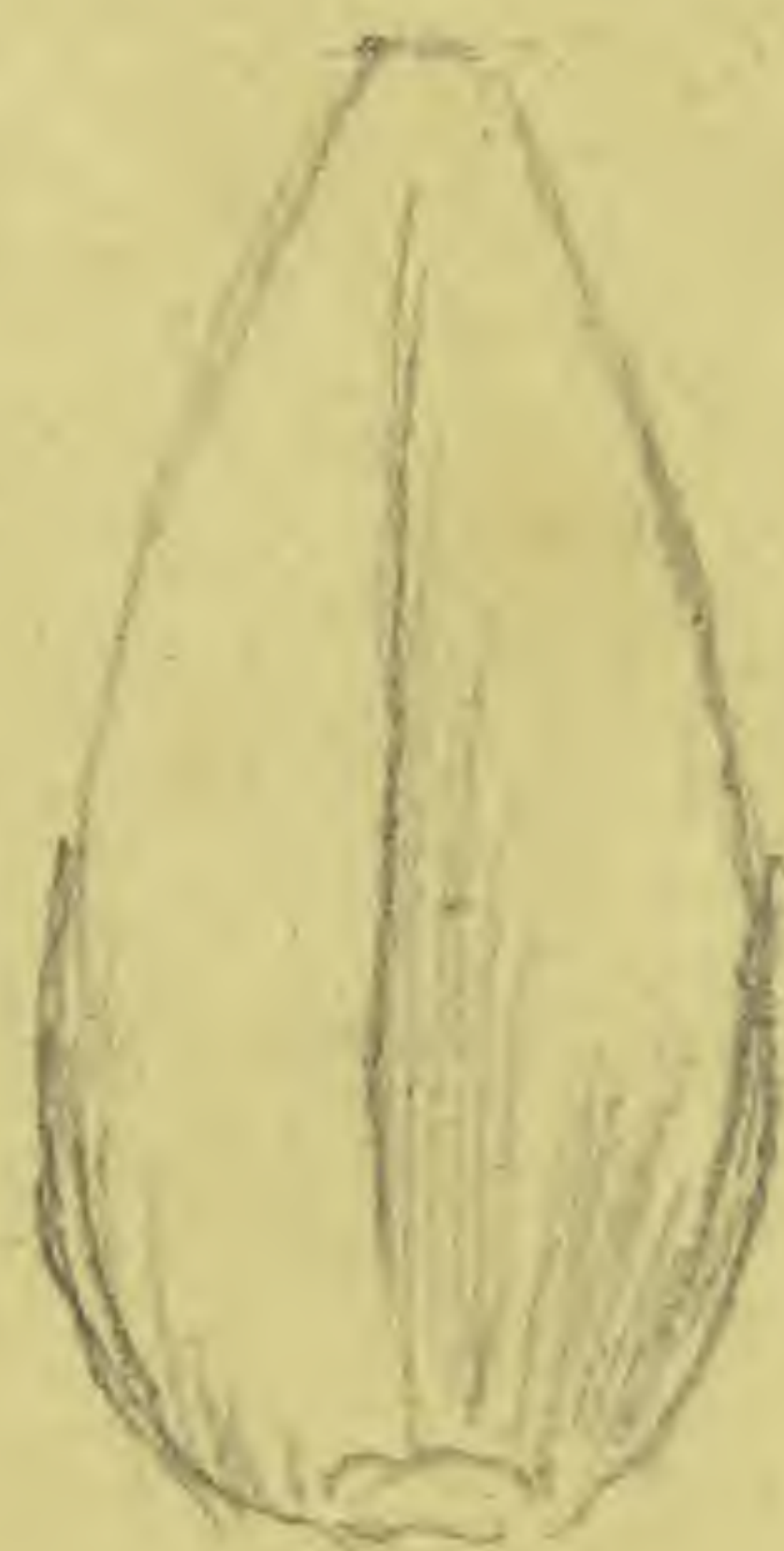
Ephedra nevadensis

June 20 1882

raised from Palmer's Arizona Seeds

1875

x4



dry and mature



inner scales

slightly

connate

at base



3 pair of scales, connate
at base - often a small
additional pair on
short peduncle



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